

D) AMENDMENTS TO THE DRAWINGS

None.

E) REMARKS

This Response is filed in response to the Office Action dated August 11, 2005.

Upon entry of this response, claims 1-27 will be pending in this Application.

In the outstanding Office Action, the Examiner rejected claims 1-6 and 14-16 under 35 U.S.C. § 112, second paragraph as being indefinite; objected to claim 16 under 37 C.F.R. § 1.75(c) as being in improper form; rejected claims 1-11 and 14-21 under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art in view of either Tucker (U.S. Patent No. 4,247,055) or Nishida et al. (U.S. Patent No. 4,504,020).

Rejection under 35 U.S.C. 103

The Examiner rejected claims 1-11 and 14-21 under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art (APA) in view of either Tucker (U.S. Patent No. 4,247,055) hereafter referred to as "Tucker" or Nishida et al. (U.S. Patent No. 4,504,020) hereafter referred to as "Nishida."

Specifically, the Examiner stated that

APA is the apparatus disclosed in figure 1 of this application. A spring is not used to bias the roller against the material, which renders the apparatus inefficient. Both Tucker and Nishida et al solve this problem by disclosing similar apparatus including the use of spring biased rollers. In order to render the apparatus more efficient, it would have been obvious for one of ordinary skill in the art to modify APA by spring biasing the rollers, taught to be desirable by both Tucker and Nishida et al. The remaining limitations would then have been obvious design choices only as they solve no stated problems.

Applicants respectfully traverse the rejection of claims 1-11 and 14-21 under 35 U.S.C. § 103(a).

The following principle of law applies to all Section 103 rejections. MPEP 2143.03 provides "To establish prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." [emphasis added] That is, to have any expectation of rejecting the claims over a single reference or a combination of references, each limitation must be taught somewhere in the applied prior art. If limitations are not found in any of the applied prior art, the

rejection cannot stand. In this case, the applied prior art references clearly do not arguably teach some limitations of the claims.

Tucker, as understood, is directed to a roller and race pulverizer including large diameter rollers that are circumferentially spaced about and disposed on a grinding ring. Each roller is rotatably mounted in a roller bracket, which is subjected to a compressive force by springs interposed between the roller bracket and a spring loading device. The rollers are rotated in place by the interaction of the roller surfaces and the rotation of the ring, which interaction in combination with the compressive force pulverizes material, such as coal introduced between the roller and race.

Nashida, as understood, is directed to a roller and race pulverizer having a base including an upper surface serving as a crushing tray of a vertical roller mill in which rollers are held at the periphery of the upper surface of the base by resilient support means (springs) by the upper surface. The rollers only move by being pulled by the rotation of the base, and coarsely crush material because of the pressure applied by the springs to the rollers.

In contrast, claim 1, as amended, recites a rotatable roller press and brush assembly for use within a separator comprising: a main arm having opposed ends; a main axle configured and disposed to rotatably carry the main arm between the ends; at least one brush arm attached to and extending away from the main arm, each of the at least one brush arm being connected to a brush adjacent the end of the brush arm opposite the main arm; at least one roller arm having a first end and a second end, the at least one roller arm being rotatably carried between the first end and the second end adjacent at least one of the ends of the main arm; a roller being rotatably carried adjacent the first end of the at least one roller arm; and a resilient force device connected to at least one roller arm and the main arm for urging the roller away from the main axle, the resilient force being limited for preventing a foreign object entering the separator during operation of the separator from damaging a portion of the separator upon the foreign object being juxtaposed between the roller and the portion of the separator. (emphasis added).

In contrast, claim 7, as amended, recites a manure separator comprising: a shell; an inlet comprising a slurry supply section for providing a slurry to the separator; a first section within the shell comprising a first screen and a rotating brush assembly, the first section being adjacent to and in fluid communication with the inlet, the brush assembly comprising at least one first brush and at least one arm, each of the at least one first brush being attached to at least one arm, and each of the at least one arm being rotatably carried within the shell adjacent the first screen to direct solid slurry components of the slurry from the first section to a second section; the second section within the shell adjacent to and in fluid

communication with the first section, comprising a second screen and a rotating roller press and brush assembly being rotatably carried within the shell adjacent the second screen, the roller press and brush assembly comprising: a main arm having opposed ends; a main axle configured and disposed to rotatably carry the main arm between the opposed ends; at least one brush arm attached to and extending away from the main arm, each of the at least one brush arm being connected to a second brush adjacent the end of the brush arm opposite the main arm; at least one roller arm having a first end and a second end, the roller arm being rotatably carried between the first end and the second end adjacent at least one of the opposed ends of the main arm; a roller being rotatably carried adjacent the first end of the at least one roller arm; and a resilient force device connected to at least one roller arm and the main arm for urging the roller away from the main axle, the resilient force being limited for preventing a foreign object entering the second section during operation of the separator from damaging the second screen upon the foreign object being juxtaposed between the roller and the second screen; a driving means to urge rotational movement of the brush assembly and the roller press and brush assembly; a sump in fluid communication with the first section and the second section for draining liquid slurry components of the slurry from the first section and the second section; and a solids discharge section in communication with the second section for discharging solid slurry components of the slurry from the second section. (emphasis added).

In contrast, claim 17, as amended, is directed to a manure separator comprising: a shell; a weir box in fluid communication with the shell for providing influent to the separator; a first section within the shell in fluid communication with the weir box comprising a first screen and a rotating brush assembly, the brush assembly comprising a plurality of first brushes and a plurality of arms, each first brush of the plurality of first brushes being attached to an arm of the plurality of arms, and each arm of the plurality of arms being rotatably carried by a first main axle mounted in the shell adjacent the first screen, each arm of the plurality of arms having a first central axis, and each first brush of the plurality of brushes having a first angle in the range of about 30 degrees to about 60 degrees between the first central axis and the plurality of first brushes away from a direction of rotational travel of the plurality of first brushes for directing solid influent from the first section to the second section; a second section within the shell adjacent to and in fluid communication with the first section, comprising a second screen and a rotating roller press and brush assembly, the roller press and brush assembly comprising: a main arm having two ends being rotatably carried by a second main axle mounted in the shell adjacent the second screen; a plurality of brush sub-assemblies attached to and extending away from the main arm, each brush sub-assembly of the plurality of brush sub-assemblies comprising a brush

arm having a second central axis and an end opposite the main arm and a second brush attached adjacent the end of the brush arm, each second brush of the plurality of second brushes having a second angle in the range of about 0 degrees to about 45 degrees between the second central axis and the plurality of second brushes in a direction of rotational travel of the plurality of second brushes; a plurality of roller press sub-assemblies comprising a roller sub-assembly arm having a first end, a second end for rotatably carrying a roller adjacent the first end, each of the plurality of roller press sub-assemblies being rotatably carried between the first end and the second end of the roller sub-assembly arm adjacent one of the two ends of the main arm; a spring assembly attached to the roller sub-assembly arm for urging the roller in a direction away from the second main axle, the resilient force being limited for preventing a foreign object entering the second section during operation of the separator from damaging the second screen upon the foreign object being juxtaposed between the roller and the second screen; and a stop screw and a mechanical stop secured to the main arm to adjustably position the roller a predetermined distance from the main axle; a driving means connected to the brush assembly and the main arm for urging the brush assembly and the main arm into a predetermined rotational movement; a sump in fluid communication with the first section and the second section for draining liquid influent from the first section and the second section; and a discharge section in communication with the second section for discharging solid influent from the second section. (emphasis added).

Several of the features recited by Applicants in independent claims 1, 7 and 17 are not taught or suggested by Tucker or Nishida. First, both Tucker and Nishida are directed to pulverizers, not separators. The materials used to construct the roller and race of each of Tucker or Nishida are extremely hard, as the purpose of a pulverizer is to crush materials directed between the roller and race. In other words, the roller and race are practically indestructible at least with regard to the materials that are to be pulverized. Clearly, since the purpose of the separator of the present invention is to separate solids and semi-solids from liquid, neither the magnitude of hardness of the roller nor the screen material, nor the magnitude of forces used to bring the roller and screen into contact with each other are remotely similar to those required for a pulverizer. Additionally, the mesh of the present invention is configured for liquid to pass through for separation to occur, while with a pulverizer, the race does not permit material to pass through.

Second, the springs or resilient support means of both Tucker and Nishida are required to provide the compressive force necessary for the pulverizers to function

properly; that is, crush material introduced between the roller and race. In contrast, as recited in independent claims 1 and 7, while “a resilient force device [is] connected to at least one roller arm and the main arm for urging the roller away from the main axle,” which provides a compressive force between the roller and a portion of the separator, as further recited, the resilient device simultaneously prevents “a foreign object entering the separator during operation of the separator from damaging a portion of the separator upon the foreign object being juxtaposed between the roller and the portion of the separator.” (claim 1). Similar to claim 1, claim 7 recites “preventing a foreign object entering the second section during operation of the separator from damaging the second screen upon the foreign object being juxtaposed between the roller and the second screen.” Claim 17 similarly recites “a spring assembly attached to the roller sub-assembly arm for urging the roller in a direction away from the second main axle for preventing a foreign object entering the second section during operation of the separator from damaging the second screen upon the foreign object being juxtaposed between the roller and the second screen.” Conventional pulverizers, such as Tucker and Nishida, do not function in this manner, primarily because there is no need for them to do so, due to the required hardness of each of the roller and race to operate satisfactorily.

Next, Applicants submit that both Tucker and Nishida are non-analogous art with respect to Applicants’ invention as recited in independent claims 1, 7 and 17. As discussed above, both Tucker and Nishida are directed to roller and race pulverizers, which ultimately reduce chunks of material into powder. In contrast, Applicants’ invention as recited in independent claims 1, 7 and 17 are directed to a separator, which separates solids or semi solids and liquid. Applicants submit that one skilled in the art of separating solids or semi solids and liquid would not look to references directed to pulverizers to solve problems in the separator field. While the Examiner has cited the use of springs in the pulverizers of Tucker and Nishida, as discussed above, the springs in the present invention and Tucker and Nishida do not function in the same manner, so that no passage in either Tucker or Nishida indicate that the springs of Tucker or Nishida could be used consistent with use for a pulverizer without the risk of destroying the separator of the present invention when the separator encountered a foreign object of sufficient hardness. Thus, Applicants submit that the Examiner has improperly combined the admitted prior art with either Tucker

or Nishida and as such neither Tucker nor Nishida can be used to reject any of the independent claims 1, 7 and 17.

Furthermore, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination." See Manual of Patent Examining Procedure, 8th Edition (MPEP), Section 2143.01.

The Examiner is reminded that "[i]f the proposed modification or combination of the prior art would change the principle or operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." See MPEP, Section 2143.01.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

See Manual of Patent Examining Procedure, 8th Edition (MPEP), Section 2143.03.

Incorporating into the admitted prior art separator springs of sufficient magnitude to crush a foreign object entering the separator during operation of the separator would damage the portion of the separator upon the foreign object being juxtaposed between the roller and the portion of the separator. Therefore, Tucker and Nishida teach away from using a resilient force device as claimed in the present invention.

Therefore, for the reasons given above, independent claims 1, 7 and 17 are believed to be distinguishable from the admitted prior art, Tucker and Nishida and therefore are neither anticipated nor rendered obvious by the admitted prior art, Tucker and Nishida.

Dependent claims 2-6 are believed to be allowable as depending from what is believed to be allowable independent claim 1 for the reasons given above. Similarly, dependent claims 8-11 and 14-16 are believed to be allowable as depending from what is believed to be allowable independent claim 7 for the reasons given above. Additionally, claims 18-21 are believed to be allowable as depending from what is believed to be allowable independent claim 17 for the reasons given above. In addition, claims 2-6, 8-11,

14-16 and 18-21 recite further limitations that distinguish over the applied art. In conclusion, it is respectfully submitted that claims 1-11 and 14-21 are neither anticipated nor rendered obvious by the admitted prior art, Tucker and Nishida and are therefore allowable.

Rejection under 35 U.S.C. 112

The Examiner rejected claims 1-6 and 14-16 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim Applicants' invention.

Specifically, the Examiner stated that claim 1 contained a line that was confusing and should be rewritten although the line number was not identified, and that the preambles of claims 14-16 are not consistent with the claims upon which they depend.

In response, Applicants have amended claim 1 and claims 14-16 in a manner believed to overcome the rejection.

Therefore, in view of the above, Applicants submit that claims 1-6 and 14-16 are not indefinite and comply with the provisions of 35 U.S.C. § 112, second paragraph, and therefore are allowable.

Rejection under 37 C.F.R. 1.75(c)

The Examiner rejected claim 16 under 37 C.F.R. § 1.75(c) as being in improper form.

In response, Applicants have amended claim 16 in a manner believed to overcome the rejection.

Therefore, in view of the above, Applicants submit that claim 16 is in proper form and therefore is allowable.

Amendments to the Claims

Applicants have amended claims 18-21 to correct claim dependencies. It is submitted that no new matter has been added with these claim amendments.

Allowable Subject Matter

The Examiner indicated that claims 22-27 are allowed. The Examiner further objected to claims 12-13 as being dependent upon a rejected base claim, but indicated that

the claims would be allowable, if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants appreciate the Examiner's indication of allowable subject matter, but believe that all of the claims are allowable for the reasons given above.

CONCLUSION

Claims 1-27 are distinguishable over the prior art of record and are in condition for allowance.

Applicants request the entry of the present amendment and the withdrawal of the rejection of claims 1-27. Based on the amendments to the claims, Applicants further request allowance of claims 1-27, and issuance of the application as amended. A timely and favorable action is earnestly solicited.

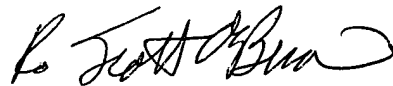
Should the Examiner have any questions with respect to any matter now of record, the Examiner is requested to contact the undersigned at the phone number listed below.

The Commissioner is authorized to charge any fees and credit any overpayments to the Deposit Account 50-1059.

Respectfully submitted,

McNEES, WALLACE & NURICK

By



K. Scott O'Brian

Reg. No. 42,946

100 Pine Street, P.O. Box 1166

Harrisburg, PA 17108-1166

Tel: (717) 237-5492

Fax: (717) 237-5300

Dated: August 24, 2005